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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,597

07/11/2006

Roger L. Kuhlman

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The Dow Chemical Company
Intellectual Property Section
P.O. Box 1967
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EXAMINER

MULLIS, JEFFREY C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,597	Applicant(s) KUHLMAN ET AL.	
	Examiner Jeffrey C. Mullis	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10-10-06</u> | 6) <input type="checkbox"/> Other: _____ |

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) as follows:

It is noted that this application appears to claim subject matter disclosed in prior Application No. 60/538355 and 60/609291, filed allegedly 1-22-04 and 9-13-04. A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not

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extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the

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specification or an ADS. See MPEP § 201.11. Applicant's election without traverse of Group I in the reply filed on 6-25-09 is acknowledged.

The present examiner agrees with the previous examiner that both groups I and II contain a functionalized branched olefin copolymer made by reacting (what may encompass) a maleated elastomer with (what may encompass) an amine terminated polymer. The present examiner can not see that there is a substantial difference between groups I and III although group I is very unclear. Therefore groups I and III are being examined together unless any future amendment by applicants clarify the two groups such that it is apparent that they are patentably distinct.

Claims 1-6 and 11-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant specification discloses that applicants "branched copolymer" is actually produced by reacting a polyolefin containing a terminal nucleophilic heteroatom with a functionalized polyolefin. Note in this regard for example paragraph 13 of applicants published specification and at Example 8 where sidechains of the functionalized branched copolymer are generated from a polyolefin whose only functional group is a terminal amine which is reacted with a backbone functionalized copolymer. The sidechains in fact have no functional group after reaction although the polymer from which the sidechains are produced might possibly be said to be functionalized in that a single terminal functional group is present. Therefore it is unclear what is intended by applicants limitation "functionalized branched olefin copolymer

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containing functionalized sidechains (emphasis added)". Furthermore claim 1 recites that the sidechains are derived from "olefin and at least one chain end nucleophilic heteteroatom" despite the fact that an olefin is not a polymer and as such contains no chain end. Claims 1-6, 11-14 and 21-24 are therefore unclear.

TMA is used to measure a number of characteristics of materials and as such it is not clear what characteristic the term "TMA temperature" is intended to encompass.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 11-25 are rejected under 35 U.S.C. 102(b or a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Torres et al. (either US 2004/0116610 or WO 02051893, cited by applicants).

Applicants provisional application 60/538355 requires the use of a chain end polyolefin which is specifically functionalized by amine, not broadly by a nucleophilic heteroatom and as such does not support the full scope of the claims even aside from the failure of applicants to properly claim benefit to any provisional application and applicants effective filing date is therefore 9-13-04. Torres '610 is therefore available as prior art under paragraph (a) of 35 USC 102. Torres '610 corresponds to Torres '893 and Torres '610 will be referred to since it is in English.

Torres discloses production of "graft" copolymers by a process requiring reaction of a functionalized polyolefin and a "mono-functional type oligomer" (abstract) said to be derived from olefinic monomers such as dienic monomers (paragraph 117) made by processes inherently introducing end fictionalization (paragraph 131 et seq). Note 4-methyl 1 pentene polyolefins at paragraph 63. Since the reference discloses branched olefinic polymers produced bt reaction of functionalized polyolefin and end functionalized polymers and the claims and reference encompass identical structures, similar or identical characteristics reasonably appear to be inherent.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims 1-6 and 11-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kojoh (either US 2003/0023002 or EP1270647, cited by applicants).

It is noted that Kojoh US '002 is equivalent to EP '647 and that EP '647 is available under paragraph (b) of 35 USC 102 even if 60/538355 fully supported the instant claims and even if applicants had properly claimed benefit to any provisionla application.

Kojoh (US '002) discloses a "branched polyolefin" formed by reaction of an anhydride functionalized polyolefin and a terminally modified polyolefin (abstract). Note that paragraph 345 of the document discloses an example in which a reaction of a terminally aminated polyethylene with a malienated polyolefin takes place. Note that the polyolefin may be produced from 4-methyl-1-pentene at paragraphs 27 and 254.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

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Claims 1-5 and 11-25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Krom (US 7,056,979).

Patentees disclose a reaction product of maleated polyolefin and amine terminated olefinic elastomers (column 2, lines 8-26).

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Applicants International Search Report has been reviewed.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis M-f, 9-5pm at telephone number 571 272 1075.

Jeffrey C. Mullis
Primary Examiner
Art Unit 1796

/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796